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Investing in Human Capital as a Key Factor for the Development of Enterprises

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Additional information is available at the end of the chapter

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Abstract

Small and medium-sized enterprises (SMEs) are considered to be a driving force of the economy in the world. Among the most valuable features of SMEs is their flexibility, decision-making accessibility, implementation, innovation and high adaptability to the market environment. SMEs provide for acceleration and economic growth of the country and its regions. Investment in human capital in SMEs, (meaning investment into intangible assets of the company), it is one of the ways to support this sector. In the same manner as SMEs are considered to be a driving force of the economy, human resources can be seen as its driving force, the source of success, competitiveness and added value of businesses. Human capital is one of the most valuable components of any business and that is why investment in human resources becomes a necessary step ensuring that a business prospers in a changing market environment. Current trends also point to the growing importance of investment in human capital. The future will certainly belong to those companies which pay most attention to effective management of human resources, which, in terms of time factor is an important prerequisite for growth and competitiveness of a company.

Keywords: investments, human capital, human resources, return on investment, enterprise

1. Creating market value of small and medium enterprises through human resources

Currently, small- and medium-sized enterprises (SMEs) in developed economies are irreplaceable. They are considered a driving force of the economy because they largely contribute to the increase in innovation activities and to the flexible introduction of new products and also are adaptable. They also create a substantial volume of job opportunities. In Slovakia, SMEs represent a part of the business sector, which according to the Slovak business agency [1] produces nearly 60% of added value and provides over 70% of jobs. For a stable and prosperous market economy, it is essential that there is a medium state of SMEs in the society. It is precisely for this reason that it is necessary to pay more attention to SMEs, encourage them and also create favourable business conditions.

SME category has its own significance and role in corporate management. The role of SME entrepreneurs differs both quantitatively and qualitatively from the tasks of managers in large enterprises. In many cases, large enterprises greatly rely on SMEs in the provision of their support services and products which enables the large enterprises to concentrate on their core activities. Therefore, SMEs are highly valued for their creativity, flexibility, rapid response to changes in the environment and also in easy decision-making implementation of innovation, as well as for their focus on specific markets [2–4]. On the other hand, compared to large enterprises, SMEs have limited resources, which make them less technologically equipped. They are less able to prepare and manage business plans; they are more dependent on personal relationships between management and employees and between management and customers. SMEs usually do not have significant personal contacts within the financial sector and the government and thus are less able to negotiate special tax and state benefits [5]. However, as long as the aforementioned negatives are identified and eliminated in time, SMEs can effectively manage their business activities and significantly contribute to creating an added value and jobs in any economy.

The existence of the enterprise, its prosperity and dynamic progress is primarily affected by the quality of human resources. Prosperous enterprises realise that the most profitable capital of the enterprise is its employees [6]. Nowadays, the statement that people are the most valuable resource of any company proves to be more true than before. No more it is enough to ensure quality technical equipment and technology. Without the people who create added value in the company as bearers of human capital, no technical achievements can be properly utilised [7]. Moreover, a significant part of the value of the company, in addition to its financial capital consisting of financial assets, is created by the company's intellectual capital. Intellectual capital is defined as stocks and flows of competencies, knowledge and skills available to businesses, which contribute to the process of generating market value of the company [8]. Intellectual capital is essentially a set of intangible sources that together with the material resources form the market value of the company. In other words, intellectual capital comprises competencies, knowledge and skills of company's employees [9]. All these competencies are disseminated and transmitted further, parallelly with contacts to people outside the company (creating thus a social capital of the company) for the purpose of creating a so-called

business knowledge-organisational capital [8]. It is clear that the company should pay more attention to the human factor, and, consequently, human factor should not be seen only as an additional expense but as a prospective income, which will pay back in the future [10]. It is also important that business owners become aware of the fact that the success of their enterprises as a whole depends mostly on their employees. They should not overlook this fact; on the contrary, they should seek ways of the most effective use of their human factor.

The significance of human factor was analysed by Gary Becker. Becker divided human capital into a general one (usable in a variety of jobs) and to a specific capital (which can be best used in a specific company). Becker's division stimulates further discourse of motivation and the need for investment into vocational education in order to increase the company's human capital [11]. Human capital is affected by three fundamental features shown in **Figure 1** [12].

Figure 1 shows that the skills and qualities of the individual are determined by initial factors and they can be further developed by education and the environment. Education and the environment interact and by the impact of one's environment in which the individual grows up, as well as by the impact of continuing education (both formal and informal) and by shaping one's character, the individual acquires and develops his or her competencies and skills [12].

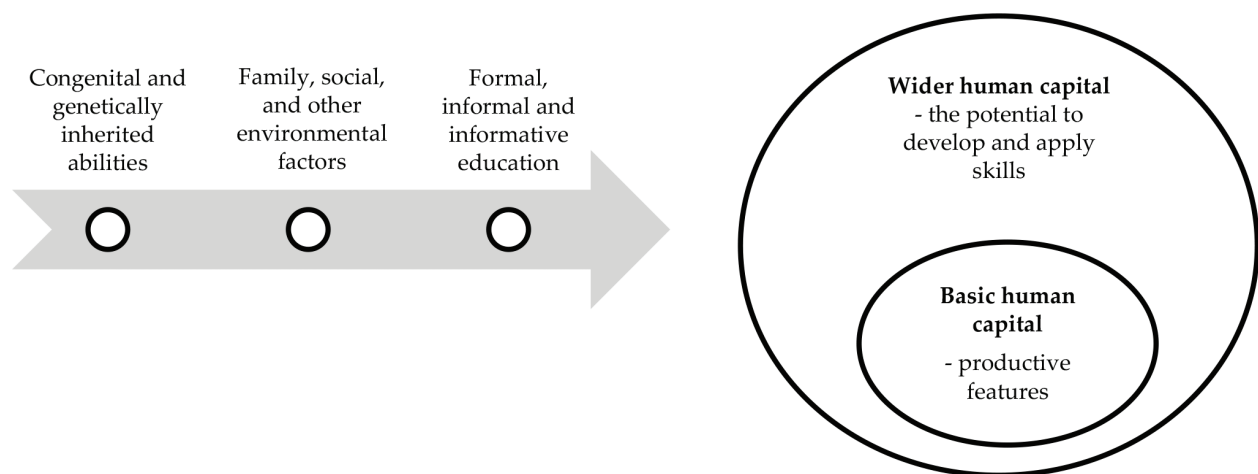


Figure 1. Factors affecting human capital (Source: [12]).

2. Investment into human resources

Enterprises become increasingly aware that proper investment into human resources can have a significant impact on their performance, which of course also affects their competitiveness. The corporate culture exactly offers the greatest source of competitive advantage of enterprises [13]. Continual adaptation to changing market conditions attracts businesses to invest their energy and finance to staff by improving their competencies. Businesses improve their human resources and consequently increase their psychological and professional assets by investing into human potential of individuals by improving their skills and competencies [14].

There exist various ways of investment into human resources. Businesses can invest in general human capital, which is an investment into specific or general training that enables acquisition of general knowledge usable in various companies. This results in higher future expected return of investment. The second option of investment into human resources is to invest in specific human capital. Specifically, it is investing in the improvement of specific competencies and skills for a particular job. This form of investment is less risky in terms of staff turnover as the use of specific knowledge is less likely to be used in other companies [15].

There are also other forms through which the company can provide investment in human resources, for example, by improving working conditions by using more efficient and innovative protective aids and tools [16]. The second way is to improve the health conditions of employees through quality social programme. The third form of investment in human resources could be improvement and expansion of business skills, competencies and abilities achieved by high-quality corporate education. All the above-mentioned forms of investment into human resources aim towards the overall development of individuals and also his/her acquisition of new skills, competencies and abilities, as well as a change in behaviour and attitudes of individuals towards the company and its objectives [7].

When investing into human capital, the enterprise should pay attention to the criteria used for investments into fixed capital, taking into account also the specifics and factors that affect the overall investment process. When considering the philosophy of strategic planning into human resources, it is necessary to take into account two criteria: first, feasibility of investment which answers fundamental questions about the availability of necessary resources, efficiency, time factor, the size of capital invested and the like. The second criterion is the eligibility of the investment. Then, the investor confirms the correctness of the decision to implement the investment. The evaluation process will take into account the appropriate approaches and methods, including the time factor and also the risk of investment into company's human resources [17]. Another issue to be taken into consideration in company decisions to invest in human resources is the fact that such decision is limited and depends mainly on the estimated volume and availability of capital expenditures and also on the expected amount of income from investment management, cost of capital and optimally quantified assessment of the investment period [18].

2.1. Investment into education of company's human resources

In economic theory, investments in education of the employees are the most common assessment of the investment in connection with the analysis of investment in human capital. The development of required skills of the employees is mostly provided by two key elements: personality training and education. Personality training can be understood as the process of creating the personality of an individual. Education is a form of development and shaping of the personality of an individual. These two elements represent important components of the activities of personnel management. Personnel management, by influencing behaviour and skills of employees, seeks to effectively achieve the objectives within the frame of the company's strategies. In this process, creation of suitable conditions for the implementation of individual education of employees, organised informal learning and quality corporate learning

system play the most important role [7]. Further, business system of education in the broader sense focuses on the formation of working skills and social characteristics essential for creating healthy personal relationships of the employees [8]. This is a repeating cycle based on the objectives of the corporate strategy and also based on the principles of corporate training policy. This cycle further relies on organisational and other business conditions of education. It consists of four phases of the long-term process of effective training and development, as presented in **Figure 2**.

In order to effectively evaluate investments into human resources, it is necessary to carefully plan company's educational and development activities. A common problem, however, is usually insufficient budget for the required scope of education, training and other activities. The lack of subventions is also the main reason why trainings are carried out irregularly. There are two ways of investment into human resources: companies may choose internal (intra-unit) and external (outside the enterprise) form of education. Each of these options has their advantages and disadvantages. The internal form of education, which includes coaching, assisting, working on projects, internal briefing in the performance of work and so on,

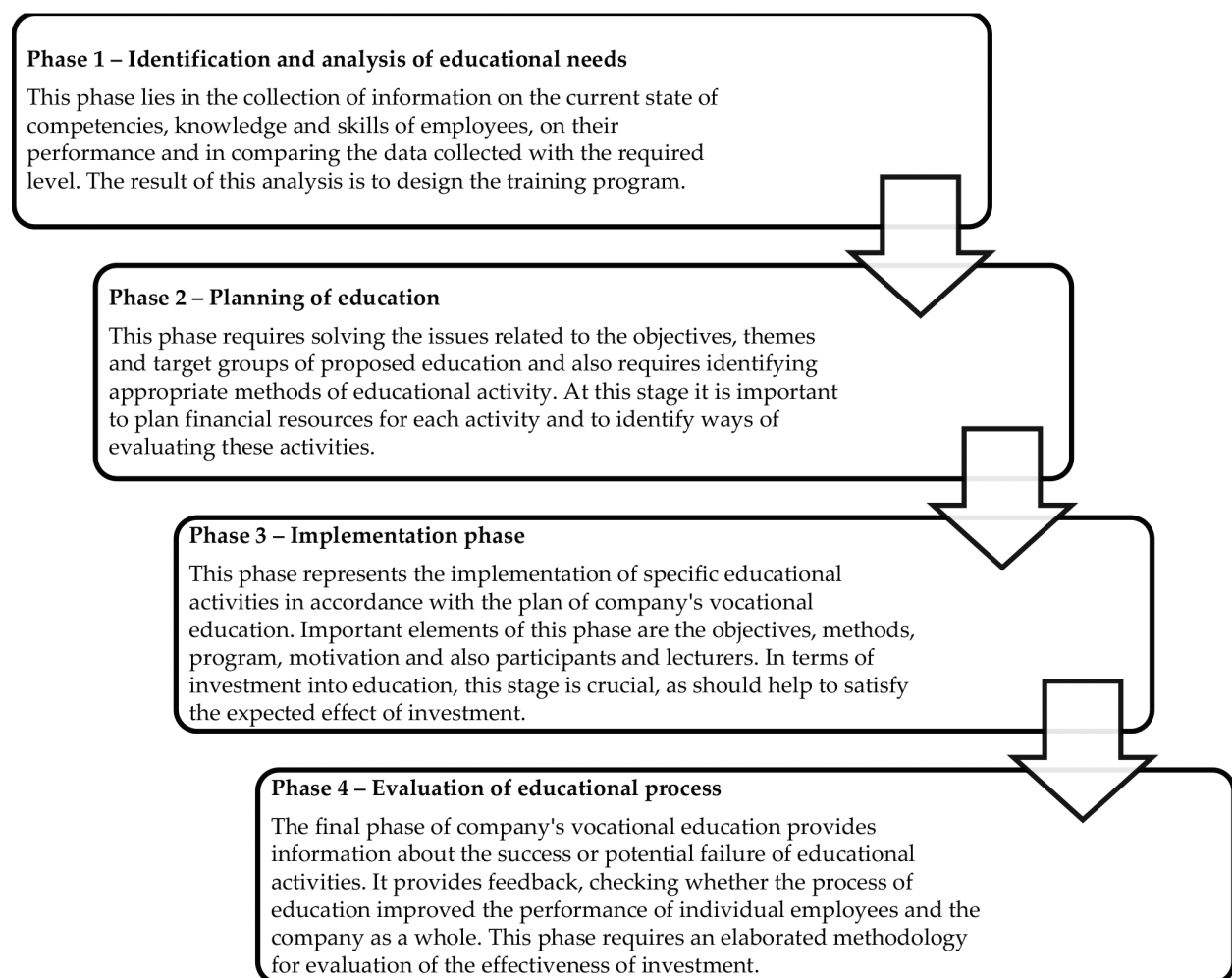


Figure 2. Four phases of the effective training and development in the company (Source: [7]).

is by the majority of businesses considered to be a more effective form. On the other hand, the main obstacle to application of this form is usually a lack of the required volume of financial resources and a lack of suitable trainers. External form of education, carried out outside a company, is also considered to be faster and easier. The problem may occur if the supply institution misunderstands requirements, which immediately reflects in the amount and structure of the expected total return by investing in human capital of the company [18].

2.2. Investment into benefits in the field of human resources

Except for investing in corporate education system, it is also important to invest into business benefits for human resources to ensure that capable employees that create a competitive advantage in business are recruited and retain in business. We assume that investing into an effective system of distribution of corporate employee benefits is a key solution to recruit and keep employees but also a way to further develop teams of high-quality employees [19].

Business benefits presented in **Figure 3** should be arranged so that they increase employees' motivation and interest. It is therefore necessary to regularly evaluate business benefits and check how effective, fair and appropriate they are in order to contribute to the assessment of employees' success and consequently to the system of rewarding.

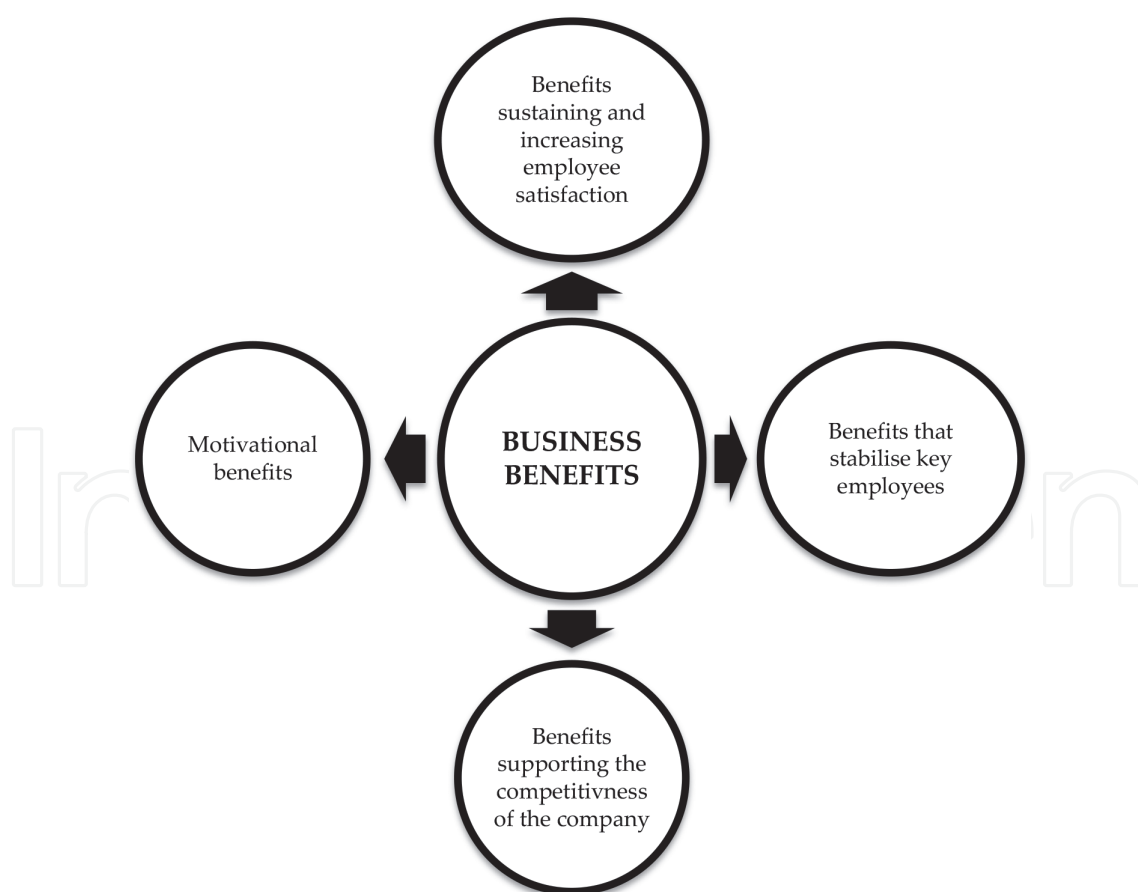


Figure 3. Business benefits (Source: [20]).

3. Defining and measuring the investment in human resources

To assess the efficiency of investment in human resources, it is important to provide a detailed cost-benefit analysis of the investments. In order to achieve a successful investment, it is necessary not only to correctly define the economic parameters of each project but also to take into account certain specific features and their impact on expected returns in due time and in the company's environment. In determining the expenditure related to investment in human capital, the efficiency evaluation should include all the cost associated with the identification and analysis of training needs, costs of developing and learning activities, renting costs, accommodation, information and communication technologies, the cost of teaching aids and materials, the cost of external trainers and lecturers, direct personnel costs for trainers and staff (such as travel and subsistence expenses, insurance and various other benefits provided by the employer) as well as other costs related to various forms and methods of education. These costs, as well as other costs of learning activity, are associated with specific phases of the process of vocational education, and therefore it is possible to divide them as suggested by experts [7] into:

- Types—labour costs, depreciation of fixed assets, material consumption, operating costs and others
- Specific educational activities—such as language training, communication training, etc.
- Stages of the education process—such as identification and analysis, planning, implementation and evaluation of educational activities

To ensure economic efficiency of a selected educational activity, the company should first of all determine the optimum amount of the costs, dependent on the (minimum) number of employees in a given activity. The minimum number of trainees and the minimum volume (value) of revenues for the respective training can be defined by setting the profit threshold through the division of costs into fixed and variable. Investments in human resources may also include the costs of lost or unused opportunities that represent possible earning potential, in which the employees could gain, but which was omitted due to the educational activity. Furthermore, this cost may also include the loss of profit from unaccomplished work due to an educational activity. Generally, these costs are not economically evaluated; however, if the company is interested in evaluating the economic efficiency of educational activities correctly and objectively, they should take these costs into consideration [18].

The total expected revenues from educational activities for the company gained during a pre-determined period of time depend on the success of all employees and their ability to apply gained knowledge as well as on the overall business performance in a given time. The main problems in determining profits of vocational education [21] are as follows:

- Setting the period for assessing the effectiveness of education. As in education there is no universal way to determine the optimal time for evaluation of effects, it is important that a manager presents a specific activity period on the basis of their personal expert estimate.

- Determination of the effect of selected training activity on the so-called cash flow expected return. This profit is influenced by a number of factors, and that is often why it may cause a problem in proper assessment whether the examined effect is the after-effect of the educational activity or whether it results from other changes within the company.

Investment in human capital is profitable (effectively utilised), provided that the total expected return (cash flow) is higher than the costs invested, respectively. In other words, it is profitable if the rate of return of funds spent (r) is higher than that of investment, so-called interest rate (i). The company then reaches revenues from investment; if pays $r > i$, while investment in human capital is profitable until the rate of return of funds spent (r) is equal to interest rate (i). As a result of the downward trend of the additional revenues from the additional training and development of employees, the internal rate of return of investment (r) is limited. However, to assess the effectiveness of learning activity exclusively on the basis of its costs is not reliable. Generally, such a decision can be more expensive than reduction of the cost of ineffective education. Therefore, it is preferable to choose the opposite approach in assessing the effectiveness which lies in tracking benefits (contributions) of training, which can represent positive change indicators, as presented in **Figure 4** [7].

For several decades, experts have been seeking, testing and verifying methodology that efficiently objectively defines the value of human capital. One of the reasons for this research is also the fact that human capital constitutes a key element of the market value of the business

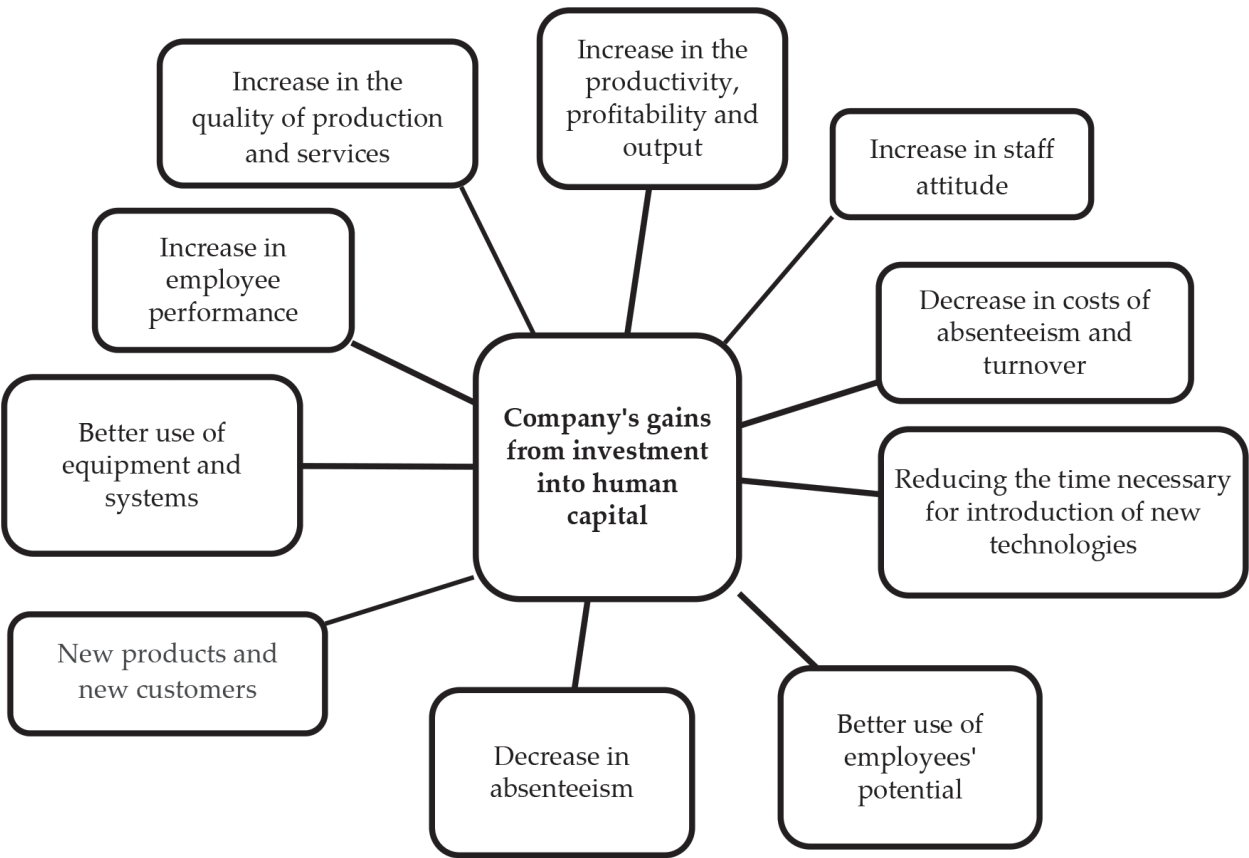


Figure 4. Company's gains from investment into human capital (Source: [7]).

and should therefore be included in the accounts. All these information are necessary for the acquisition, stabilisation, development and optimisation of human capital. Careful measurement of the value of human capital will lead to the implementation of appropriate management strategies of human resources as well as to the evaluation of the effectiveness of personnel work [22]. The basic objective in measurement of the value of human capital is its quantification, especially important for financial and management decisions of the company. Needless to say, the measurement and valuation of human capital are the basis for planning human resources in a company and for checking the efficiency of investment in this area [23].

The issue of investment in human resources has been analysed by several authors; however, so far there has not been compiled any unified and comprehensive methodology that would clearly stipulate the methods of measurement of the value of human capital. The main problem in setting the methodology is the measurement of human capital as an intangible asset. The reason is, in the field of labour and human resources, there are many factors (e.g. employees' characteristic features) that are hard to quantify or are very difficult to measure. When evaluating the efficiency of investment into the training of human resources, it is necessary to determine the possible factors that influence the effectiveness of these investments. Among these factors, the quality of the implementation of individual stages of education, teaching methods and applied approaches in the process of evaluating educational activities represents the major issues. Further, this group of factors includes subjects of education and their attitude to various activities, interest in and support for the management of the enterprise via application of acquired knowledge and skills of employees, linking educational programme and business objectives as well as corporate culture. When integrating all these factors, the company should also take into account the following two very important issues [7]:

- The time to achieve full return on investment. Setting of such a period significantly affects the nature and objective of the training programme. The point is that the company (after the return on investment) may benefit from additional training of staff until the end of employees' working life.
- Nonmaterial, qualitative benefits. The company shall understand that not all benefits are measurable in financial terms. These nonmaterial benefits reflect improvements in areas such as communication, motivation, attitude and teamwork, which are essential for company's success. In order to properly measure these benefits, interviews with managers and employees, the analysis of effects and also other methods may provide useful information about the benefits of education.

Therefore, conducting a detailed assessment and monitoring of achievements are especially important in terms of determining the overall economic efficiency of investment in human resources. Moreover, evaluation of selected indicators of human resources should not be the last step in implementation of investments in human resources, but one of the first. Such evaluation should be included into the needs analysis, definition of objectives and subsequent analyses necessary for the training and development of employees. It is essential to first decide whether an investment in human capital should be carried out or not. Thus, when formulating objectives of education, the efficiency of investment should be estimated at least in general terms. Failing to present the objectives could lead to unprofitable investment [24].

In spite of the many recommended indicators, criteria and methods of assessing the effectiveness of investment in human resources available at the market of consulting and advisory companies, no such indicators should be applied without thorough knowledge of the specific company and its specifics. Each recommended methodology should be tailored to meet the specific criteria of assessment [18]. Bonta and Fitz-enz proposed indicators, which enable effective evaluation of human capital in the company. Their methodological approach distinguishes the main areas of the value of human capital, which are human capital efficiency, its value, the investment into human capital as well as the loss of human capital. For each of the areas, there are variables that can be measured and quantified [25]. They are presented in **Figure 5**.

Indicator sales per employee is the aggregate result of work of the department of human resources, which also affects the development of human capital in the company. Human capital return on investment (HCROI) is an indicator of return on investment in human capital, including salary and compensation of employees for work, which represents another indicator or return on investment. Effectiveness of this procedure is based on the assumption that the value of employees to the enterprise is determined by wages (paid to employees as an equivalent compensation for their work). In addition to the salaries, investment in human capital also includes the costs of training and development activities. On the other hand, the loss of human capital is usually associated with reducing the value of company’s intellectual capital, and it should therefore be as low as possible. When considering indicators of investment effectiveness in human capital, there are five most commonly used indicators of personnel when the overall company is taken into consideration [26]:

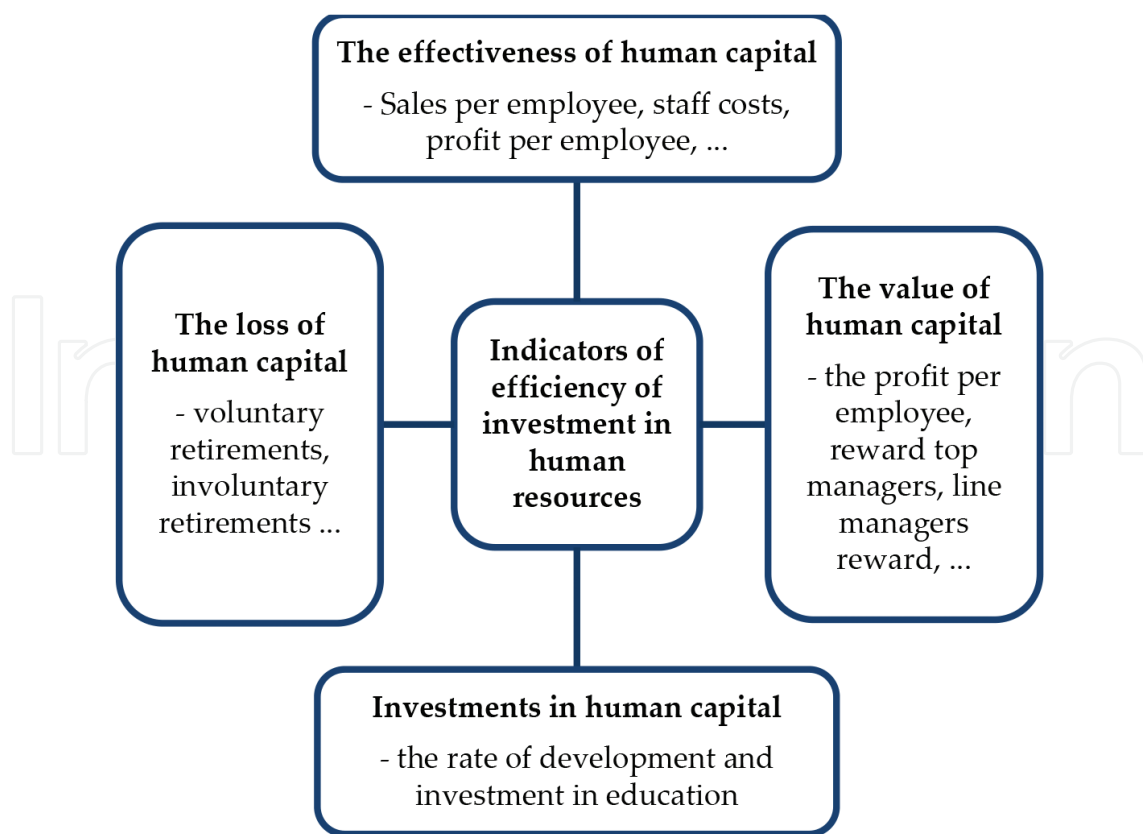


Figure 5. Indicators of efficiency of investment in human resources (Source: [25]).

1. Human economic value added (HEVA)—represents the share of one employee on creating economic value added.
2. Human capital value added (HCVA)—it is similar to HEVA; employee share in added value, with the added value of creating revenue net of costs (excluding the cost of employee benefits and labour costs).
3. Human capital cost factor (HCCF)—reflects the total cost of human capital.
4. Human capital return on investment (HCROI)—indicator reflects the amount of gross profit EUR per one euro of direct costs of human capital.
5. Human capital market value (HCMV)—the market value of human capital gives personnel managers information on the amount of EUR net market value per one employee.

Based on the research carried out on more than 10,000 companies, the most famous consultants PricewaterhouseCoopers and Saratoga recommend key indicators to measure the effectiveness of human capital. They are included in **Table 1**.

According to Dubcová and Foltínová [27], these indicators measuring human capital are financially dependent on the overall business results, and their selection and use depend primarily

No.	Indicator	Characteristics
1.	Cost factor	Compares the time and effort of human capital to the operating cost of enterprise output
2.	Return factor	It refers to the time and effort associated with human capital as well as the productivity of employees. It represents a measure of revenue generated by each individual employee. It is a basic measure of the effectiveness of human capital and is the result of all the dynamic elements of human capital management, which affects the overall behaviour of employees
3.	Profit factor	It shows the time and effort spent on human capital acquisition of operating profit. Compares the profit from operations and total number of employees
4.	Earnings before interest, taxes, depreciations and amortisation charges (EBITDA)	It refers to the time and effort spent on human capital acquisition income before tax, taking into account depreciation, interest and amortisation
5.	Human capital return on investment (HCROI)	It compares the portion of adjusted indicator of profit to the cost of human capital, in addition to tuition, which directly reflects the amount of profit made from each 1 EUR invested in labour costs
6.	Human capital value added (HCVA)	It shows a modified operating profitability indicators, which provides for adjustment of all operating expenses from operating income, taking into account the total number of employees
7.	Human economic value added (HEVA)	It shows the wealth generated by the average number of employees in the company. It presents the extent to which the economic value added (EVA) produced by the average number of employees. It expresses the wealth generated by the average number of employees in the company. It presents the extent of economic value added (EVA) produced by the average number of employees

Source: [27].

Table 1. Indicators for measuring the effectiveness of human capital.

on business strategy as well as on strategies in the filled of planning and management of company’s human resources.

4. Objectives and methodology of research

At present, many changes and constantly increasing demands on human resources occur as a result of new technologies. These dynamic changes perpetually encourage businesses to be more and more interested in the efficiency of investment in their employees. It is therefore important to focus company’s investments in human resources so as to effectively get back the invested capital and to meet the objectives of the company and its visions for the future. The objective of this work is to determine the effectiveness of investments in human resources, using statistical and econometric methods. The analysis focuses on measurable economic indicators such as labour conditions, turnover, productivity, human capital value added (HCVA), human capital return on investment (HCROI) and other measurable indicators. Evolution of the indicators was examined between 2013 and 2015. Nonmeasurable indicators of the contribution of investment in human resources were obtained by questionnaires. The research was done in a woodworking enterprise engaged in the Slovak Republic, which employs less than 250 employees. The aim was to identify similarities and differences in motivation factor for employees that significantly affect the satisfaction, motivation and performance of the employees, as well as the overall performance and potential development of the company as a whole. We contacted all the employees working in the selected company. A total of 176 questionnaires were distributed. One hundred and forty-eight questionnaires were correctly filled out – which represents a return to the level of 84.09%. Detailed identification of respondents in terms of age, education level, job category and seniority is presented in **Table 2**.

From the analysis of the respondents, it can be seen that the age structure of the survey sample is diverse. That is a prerequisite of flexibility of human resources in the enterprise. Younger workers can bring new ideas, whereas older employees provide balance and knowledge based on years of experience. Completed education that prevailed among employees was secondary education. When concerning seniority, a group of employees who worked for 10 years

Age		Finished education		Seniority – years of practice		Employment category	
Under 30	35	Primary school	12	Less than 1 year	9	Top management	9
31–40	28	Secondary school (no school leaving exam)	56	1–3 years	29	Middle management	15
41–50	45	Secondary school (school leaving exam)	67	4–6 years	20	Worker	124
51 and more	40	University	13	7–9 years	22		
				10 years	68		

Source: [own data processing].

Table 2. Composition of the research sample.

or more prevailed. This fact is a sign that the company is able to keep valuable employees and meet their needs. Among all respondents, the greatest number was represented by workers and middle management. However, we were also able to obtain preferences of top management individual work motivation and preferences.

5. Results of research and discussion

The results of the research in selected company can be summarised in the following conclusions:

1. In the area of management strategy of human resources, the company has developed an effective education system for all levels of management from top management through middle management to the workers, with a priority focus on the customer. Company's objectives in education and development are defined to support the effectiveness of management processes, effectiveness of internal communication and quality of selling goods and services to end customers. Training of employees is based on the concept of education and development of employees. For each year, funding for education, time table, methods, individual training modules and the exact number of employees to be educated are provided. Employees are educated through external and internal forms. In terms of distance education, we mean intensive training of top employees. This education is provided by external educational institutions. Internal training takes place within the company and is intended for middle management and workers.
2. In the context of measurable indicators of efficiency of investment in human resources, we analysed the first indicator – wage conditions and business benefits for employees because rewarding of employees is part of the process of preserving and maintaining an effective workforce. Company's forms of compensation varied, depending on the employee's working position. Workers were paid on the basis of piece wage, middle management's wages depended on contract wages and top management gained proportionate wage. The employees' wages, based on compliance with the qualification requirements, were classified within one of the 12 categories of wage tariff system. According to the relevant tariff class, employees gain tariff salary determined by the applicable tariff. There is the guarantee that employees are entitled to tariff-based payment, i.e. to the fixed part of the contractual salary and wage advantages irrespective of the overall results of the company. The average monthly wage in 2015 was € 515.88, which is far below the average monthly wage in the Slovak Republic.
3. Except for wages, employees were entitled to a wide range of financial and nonfinancial benefits in terms of business benefits. This includes special bonuses; personal assessment of employees' failure to report absence from work; additional payments for overtime, for work on public holidays and for work on Saturday and Sunday; the reward for living and working anniversaries; contribution to board; contribution to transport to and from work; contributions to supplementary pension insurance; time off with pay in excess of the labour code; contributions to health care and other recovery workers;

contributions to the social and cultural events and company’s notebook, cell phone or car for employees whose job requires training and staff development. Further, the employer supported university study by providing study time off and contributions to employees who studied part time at universities, by which the employer shows interest in increasing their employee’s skills. This advantage was connected with compulsory employment after finishing the school for a selected period of time. Further benefits provided to an employee included social assistance in unpredictable situations in employee’s life.

- 4. Although the average monthly wage compared to the average monthly wage in Slovakia is lower, which reduces the attractiveness of the selected enterprise for job seekers, employees are provided with a variety of benefits that motivate them to perform. The monitored company lacks feedback from its employees, which would help to determine whether the benefits act as an incentive to increase employees’ performance.
- 5. The value of the intellectual capital of the company is closely linked to the increasing or decreasing trends in the number of employees who come into the company and thus increase the value of the intellectual capital. Average monthly income is one indicator of the effectiveness of the investment to employees. Effectiveness indicator is based on the idea that the value of individual employees is determined by wages, i.e. business investment in employees, which is paid to them as the equivalent of work.

The average monthly salary, presented in **Table 3**, was during the monitored period developing in a variable rate. In 2011, the average monthly wage was € 501.70, but the economic crisis translated themselves into a decline to the level of € 485.20 in 2013. The gradual recovery in the economy has increased the company’s turnover, which resulted in an increase in the average monthly wage at the level of € 515.88 in 2015. Even though the average monthly salary was less than the average monthly wage in the Slovak Republic, its slight increase might be taken as a promising positive development for the future.

Indicator/year	2013	2014	2015
Number of employees	170	169	176
Average monthly wage (in EUR)	485.20	508.94	515.88
Average monthly wage in Slovakia (in EUR)	824.00	858.00	883.00

Source: [own data processing [28]].

Table 3. Number of employees and their average wage (development).

- 6. Employee turnover was the third measurable indicator of efficiency of investment in human resources. In **Table 4**, we examined the turnover of employees within the enterprise, which may not be viewed only as a negative phenomenon. Sometimes, some low turnover rate may be even necessary, as it enables the company to maintain its potential for innovation and growth.

Staff turnover rate in the period 2013–2015 decreased gradually. That indicates a positive development in staff turnover. For companies, it is important to identify the reasons for losing their workers and, therefore, it is of key importance to pay more attention to employees who are considering changing their jobs and to understand their unfulfilled needs and expectations.

On the other hand, reasons for the leaving of employees are often results of the decision of their employer. In the monitored period 2013–2015, it was necessary to terminate the contracts of 20 employees. Another most common reason for leaving the company was inadequate salaries, as reported by workers. We recommend the company to identify the reasons for dissatisfaction of existing staff as well as the reasons for leaving of former employees. That will enable the company to properly identify the reasons for departure and to implement changes in the system of rewarding and motivation of employees that will eventually prevent further loss of human capital.

Indicator/year	2013	2014	2015
Total number of employees	170	169	176
Number of dismissed employees	29	21	19
Development of employee turnover (%)	16.93	12.54	10.77
Reasons for dismissal			
Employee's decision	5	8	7
Medical reasons	3	2	1
Other reasons	21	11	11

Source: [own data processing].

Table 4. Development of employee turnover.

7. Labour productivity indicator is an important signal of economic efficiency of company's performance. The results of the monthly labour productivity from sales and value added (during the monitored period 2013–2015) are shown in **Table 5**. Monthly indicator of labour productivity from revenues in 2015 had been falling slightly (decrease of € 42.06 compared to 2014) due to the increase in the number of registered employees by seven employees (as a result of hiring new employees). For the same reason, there was an increase in added value only by € 0.31 in 2015, compared to 2014.

The growth of labour productivity is important for the performance of the company because it leads to savings in expenditure of labour and labour costs. We recommend the company to focus on examining the relationship between labour productivity and the system of rewarding in the company, with special emphasis on the needs and particularities of human capital, because it is human capital in the company that is able to create value.

Indicator/year	2013	2014	2015
Gains (in EUR)	10,674,582	10,901,848	11,264,557
Added value (in EUR)	1,774,401	1,838,133	1,914,902
Total number of employees	170	169	176
Monthly labour productivity based on revenues (in EUR)	5232.64	5375.66	5333.60
Monthly labour productivity based on added value (in EUR)	869.80	906.37	906.68
Source: [own data processing].			

Table 5. Development of the indicator of labour productivity.

8. Human capital value added (HCVA) is another important indicator of economic efficiency of human resources in the company, which reflects the participation of employees in added value (when the added value is created by revenue net of costs excluding labour costs—labour costs and employee benefits). It is presented in **Table 6**.

Human capital value added (HCVA) belongs among the indicators of the overall efficiency of utilisation of human resources. Thus, based on the research results, we may conclude that the analysed company uses its human resources effectively. Nevertheless, we recommend the company to continue in using its human resources effectively which will increase the company's performance. It is generally understood that via the abilities, skills and knowledge of its employees, the company can strengthen its competitiveness in the market. Quality technology available does not secure maximum performance because it is the employees who create added value in the company as bearers of human capital, and without employees, no technical achievements could be properly utilised.

Indicator/year	2013	2014	2015
Operating income (in EUR)	11,164,318	11,412,981	11,832,978
Operating expenses (in EUR)	11,099,868	11,353,813	11,773,160
Work expenses (in EUR)	1,447,716	1,521,791	1,604,130
Number of employees	170	169	176
HCVA (in EUR)	8895.09	9354.79	9454.25
Source: [own data processing].			

Table 6. Development of the human capital value added (HCVA).

9. In 2015, the company invested a total of € 120,000 in the education and the development of human resources in the form of individual training modules. Financial resources in the amount of € 80,000 were spent on intensive training of top managers, and € 40,000 was invested into intracompany education. This sum included trainings for middle managers and individual

workers. The overall costs per training module were divided by the total number of participants in various target groups. Participation of at least 80% of the employees was a precondition to providing the training programme. Resources for internal training were divided into five training modules. These five modules are presented in **Table 7**.

After identifying the range of training modules and the number of participating employees, average investment in training and staff development were analysed. The average investment per training module was € 8000, and the average investment per participant was € 266.67. On the basis of research done, we can state that the company has an elaborate system of quality education. Moreover, the company seeks to continuously improve this system and spends quite a considerable sum of money on education of their employees.

No.	Training models	No. of people	Scope of education (hours)	Module content
1.	Leadership	30	24	Leadership styles, the advantages and disadvantages of different styles
2.	Marketing	30	7	Theory and practice of marketing
3.	Communication with customer	30	7	Communication skills, coping with stress, conflict
4.	Teamwork	30	16	Developmental stages of team building, knowing the differences of individuals and teamwork
5.	Conflict solving	30	24	Coping with stress, conflict with internal and external customers

Source: [own data processing].

Table 7. Training modules of intracompany education.

10. Human capital return on investment (HCROI) is a key indicator to measure the profitability, i.e. return on investment in human capital company, and is now considered to be the most used method to measure the effect (return on funds invested in human resources of the company). The results considering this indicator are presented in **Table 8**.

During the monitored period, the development indicator HCROI was slightly decreasing due to higher labour costs (labour costs and employee benefits), which has caused an increase in the total number of employees. Nevertheless, we can view the results of this indicator positively because the company's investment in human resources each year generated revenues. That means that the investments were profitable and returned. In 2013, the company earned € 1.045 for every euro invested in labour costs. In 2014 the amount was € 1.039, and in 2015 the amount reached € 1.037 for each euro invested in human resources. We can conclude that during the monitored period, funds invested in human resources of the company were effectively recovered.

The company is further advised to regularly monitor the development achievements of HCROI, because the indicator is a key method of measuring company's human capital.

This is mainly because such monitoring answers questions such as how much profit the enterprise will have much consumption cost, how many people are employed, how much to invest in labour costs (wages and benefits) and especially how it can improve the individual variables in order to increase their competitiveness in the market. HCROI allows to increase the performance of the company, as the company expects that the investments in their employees shall be returned in the form of a specific return, even though long-term nature of payback of investments into human capital should also be taken into consideration.

Indicator/year	2013	2014	2015
Operating income (in EUR)	11,164,318	11,412,981	11,832,978
Operating expenses (in EUR)	11,099,868	11,353,813	11,773,160
Work expenses (in EUR)	1,447,716	1,521,791	1,604,130
HCROI (in EUR)	1.045	1.039	1.037

Source: [own data processing].

Table 8. Development of the indicator human capital return on investment (HCROI).

11. It is important to note that not all of the benefits of investing in human resources are measurable in financial terms. There are also nonfinancial, i.e. qualitative, benefits that characterise improvements in communication, motivation, employee satisfaction, their morale and teamwork, which are also very important to the performance and success of the enterprise, even if their contribution is difficult to quantify. In addition to financial indicators of the efficiency of utilisation of human resources, the analysed company should take into account also noneconomic indicators such as the level of employee satisfaction with company benefits, with the process learning, and their level of motivation. These aspects can encourage people to perform better and are usually determiners intensifying the interest of potential job seekers.
12. Within quantification nonmeasurable indicators of efficiency of investment in human resources in 2015, we conducted questionnaire research on a sample of employees of the company. **Table 9** shows the list of those labour and motivation factors identified by employees as the most significant, thus increasing their working efficiency most effectively. Based on the preferences of the respondents, we have compiled a rank of 10 motivation factors that were the most preferred by top and middle management and by workers. Comparison of these two groups was conducted to determine whether, based on the similarity of the responses among various employees, an identical composition of motivation factors could be identified. This finding will enable the company to consider the amount of investment in various areas related to increasing the effectiveness of human resources.

Employees working in top and middle management considered base salary to be the most important motivating factor. They give priority financial security. Job security and super-

visor's approach occupied the second and third place, which indicates that in addition to financial security, these employees also need a sense of security, stability and background. Supervisor's approach plays an important role in the evaluation of employees. Work-related motivation factors connected with workload, financial evaluation and social factors influencing the situation and conditions in the workplace occupied lower positions in questionnaires. Although the employees working in top and middle management considered social relationships to be important, they considered them secondary to existential and financial factors. The reason could be that, in the working positions of top and middle management, employees do not tend to build close relations and put more emphasis on themselves and their own careers.

On the other hand, workers attributed the greatest level of importance of interpersonal relations, good teamwork, atmosphere and communication in the workplace. The reason could be that employees work in teams, know each other and are used to each other. Workers thus tend more to coherence and values other than just the financial factors and career development. For them, friendly working relationships are the most important. Financial rewarding and job security were secondary to working relations, perhaps because of the unstable economic situation in the Slovak economy. The superior's approach, recognition and fair appraisal system based on actual merit were also highly rated among workers.

13. Surprisingly, training and development was not rated among the most important motivators in none of the observed groups. Employees are probably interested in expanding their knowledge and expertise, and further education is considered a priority. They prefer other mentioned factors to motivate them. On the other hand, within the two

Top and middle management			Workers		
No.	Motivation factor	Mean	No.	Motivation factor	Mean
1.	Base salary	4.65	1.	Good teamwork	4.81
2.	Job security	4.50	2.	Atmosphere in the workplace	4.77
3.	Supervisor's approach	4.50	3.	Communication in the workplace	4.69
4.	Good teamwork	4.34	4.	Base salary	4.68
5.	Working hours	4.30	5.	Job security	4.65
6.	Fair appraisal system	4.29	6.	Fringe benefits	4.60
7.	Fringe benefits	4.27	7.	Supervisor's approach	4.60
8.	Atmosphere in the workplace	4.26	8.	Working hours	4.56
9.	Communication in the workplace	4.16	9.	Fair appraisal system	4.56
10.	Recognition	4.15	10.	Recognition	4.55

Source: [own data processing].

Table 9. Comparison of the most effective motivation factors.

groups that were compared, there were the same 10 motivation factors that more or less affected the satisfaction, motivation and performance of the human resources of the company. Based on the results acquired, we recommend the company, as a part of their overall strategy of investments into human resources, to focus on these motivation factors that enable higher and more effective contribution from investments in human capital.

14. Quality system of corporate benefits, declining employee turnover and the positive developments in the measurable indicators of efficiency of investment in human capital are the strengths of the investment process. All these proved that the analysed company invests in their human resources effectively. Weaknesses of investment in human resources in the analysed company lied in lower average wages of employees compared to the average wage in Slovakia, which can significantly influence the discontent and limited performance of employees. Investments in intracompany education and development appear to be at a relatively high level, but it is necessary to review the division of analysed groups to top management and other trainings (volume of sources per employee and the effectiveness of their usage). On the other hand, the enterprise has a long and elaborate system of education that is constantly trying to improve it. If the analysed company would focus on business issues that are most important to employees, such as the basic salary and the level of interpersonal relationships, they would provide employees with better working conditions and care. The company has also an opportunity to improve performance of its human resources, which will ultimately provide benefits to the company in the form of greater efficiency and competitiveness. Risks are associated with a lack of awareness of business benefits system and the possibilities for their further education and development, as well as insufficient level of their satisfaction and motivation to work better, which may adversely affect the overall performance of the company and become a serious disadvantage for the company's competitiveness in the market.

6. Conclusion

In today's dynamic times of intensifying globalisation, when many countries are hit by the financial crisis, a company should monitor new trends in their business environment [29–31]. Managers make daily permanent decisions to develop an effective strategy that will help them to succeed in a highly competitive environment [32, 33]. It is more and more true that in order to succeed, companies should provide and keep quality human resources [34]. It is generally understood that times when tangible assets were the most important assets of a business are long gone. Therefore, many businesses now focus on the knowledge and skills of their employees and the company as a whole, and these often become a source of their competitive advantage. Companies now invest in human resources and significant financial resources and seek appropriate opportunities for streamlining the development of their employees' potential. Human capital plays a crucial role in increasing the productivity and output of an organisation [35]. It is involved in the creation of the market value of the company and also represents

the most valuable source of company [36, 37]. This analysis of selected company proved the effectiveness of investment in human resources through the use of measurable and immeasurable indicators of efficiency of investment in human resources. The results confirmed that the wage system in the analysed company is set up so that the amount of wages is based on the turnover of the enterprise. The business has thus few possibilities to change this fact; however, it can focus on improving the system of corporate benefits, which can ensure retention and loyalty of employees in the company. For that reason, we recommend the company to obtain from their employees feedback determining whether the business benefits are set up to act as an incentive and arouse employees' interest. In order to prevent unwelcomed turnover, a company should try to analyse and identify the reasons for employees' dissatisfaction and for leaving of former employees. If a company is aware of reasons for dissatisfaction, it can evaluate and then implement necessary changes in system of rewarding and motivation of employees, which may prevent further loss of human capital. Labour productivity growth, both in sales and value added, is a key for the performance of the company because it leads to savings in expenditure of labour and labour costs. Based on the research conducted, we recommend to the analysed company to focus on examining the relationship between labour productivity and rewarding schemes and to pay special attention to the needs and specifics of human capital, because it is human capital in the company that is able to create value. Human capital value added (HCVA) had an upward tendency, which means that human resources create added value effectively. It is important for the company to pay special attention to this indicator because its rank indicates the overall efficiency of utilisation of human resources (value added by labour), and therefore we can conclude on the basis of these results that the company uses its human resources effectively. The company is further advised to regularly monitor the development achievements of HCROI, because this indicator is a key method of measuring human capital in the company. The enterprise expects that investments in its employees shall be returned, although long-term nature of the return on investment in human capital must be taken into account. What we consider to be a satisfactory outcome of this research is that when evaluating motivation in both the compared groups, respondents responded to the same 10 most important motivation factors, which more or less affect the satisfaction, motivation and performance of the human resources of the company. Based on the gained knowledge, we recommend the company to focus on (within their strategy of investing in human resources) the examined motivation factors that enable higher and more effective contribution from investments in human capital company. Finally, in order to efficiently use human resources in the analysed company, increase of employees' awareness about the system of corporate benefits and the possibilities for their further education and development would help to achieve the best results. All these items can significantly increase employees' satisfaction, their motivation and especially their work performance, which consequently positively translate into greater efficiency, prosperity and competitiveness of the company itself.

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References

- [1] Slovak Business Agency, Malé a stredné podnikanie v číslach v roku 2015. [Internet], 2016, Available from: http://www.sbagency.sk/sites/default/files/msp_v_cislach_v_roku_2015_0.pdf.
- [2] Foreman-Peck J, Nicholls T, Peripherality and the impact of SME takeovers, In: Proceedings of Regional Studies Association Annual Conference, 2008, Praha.
- [3] Cutler T, Venturous Australia, building strength in innovation, Melbourne, Cutler & Company Pty Ltd, 2008.
- [4] Potkány M, Krajčírová L, Quantification of the volume of products to achieve the break-even point and desired profit in non-homogeneous production, *Procedia Economics and Finance*, 2015, 26, 194–201, DOI: 10.1016/S2212-5671(15)00811-4.
- [5] Johnson S, Winterton J, Management skills, skills tasks force, London, Department for Education and Employment, 1999.
- [6] Hitka M, Štípalová L, Comparing level of employee's motivation in wood processing businesses with manufacturing companies in Slovak republic, *Drvna Industria*, 2011, 62, 185–192, DOI: 10.5552/drind.2011.1101.
- [7] Kucharčíková A, Vodák J, Efektivní vzdělávání zaměstnanců, 2nd ed., Praha, Grada Publishing, 2011, 240 p.
- [8] Koubek J, Řízení lidských zdrojů, 4th ed., Praha, Management Press, 2007, 399 p.
- [9] Barták J, Skryté bohatství firmy, 1st ed., Praha, Alfa Publishing, 2006, 184 p.
- [10] Ližbetinová L, Hitka M, Selection of most suitable candidates for the talent pool in a furniture manufacturing company, *Drvna Industria*, 2016, 67, 333–340, DOI: 10.5552/drind.2016.1601.
- [11] Čaplánová A, Martincová M, Inflácia, nezamestnanosť a ľudský kapitál z makroekonomického pohľadu: teoretické a praktické problémy, 2014, 1st ed., Bratislava, Wolters Kluwer, 2014, 130 p.
- [12] Mazouch, P, et al, Lidský kapitál – měření, souvislosti, prognózy, 1st ed., Praha, C. H. Beck, 2011, 116 p.

- [13] Potkány M, Benková E. Company processes-the basic condition for outsourcing use. In: International Conference on Wood processing and furniture production in south east and central Europe: Innovation and competitiveness; 2008; 85-90 p.
- [14] Kameníček J, Lidský kapitál: úvod do ekonomie chování, 1st ed., Praha, Karolinum, 2003, 248 p.
- [15] Šimek M, Trh práce, Ostrava, Vysoká škola podnikania, 2015.
- [16] Mura L, Sleziak J, Innovation and entrepreneurship network, In Proceedings of the CERS Central European Conference in Regional Science, International Conference, 2014, pp. 643–651.
- [17] Košťan P, Šuleř O, Firemní strategie: plánování a realizace, 1st ed., Praha, Computer Press, 2002, 120 p.
- [18] Drábek J, et al, Rozvoj ľudských zdrojov II, 1st ed., Zvolen, Technická univerzita vo Zvolene, 2013, 265 p.
- [19] Hitka M, et al, Corporate culture as a tool for competitiveness improvement, In: Business Economics and Management Conference, 2015, pp. 27–34, DOI: 10.1016/S2212-5671(15)01597-X.
- [20] Pauko P, Piršelová D, Vzdelávanie, benefity a daňový pohľad na ne, Bratislava, Verlag Dashofer, 2010.
- [21] Drábek J, Polách J, Reálne a finančné investovanie firiem, 1st ed., Zvolen, Technická univerzita vo Zvolene, 2008, 271 p.
- [22] Armstrong M, Řízení lidských zdrojů, Praha, Grada Publishing, 2002, 856 p.
- [23] Kocianová R, Personálne činnosti, Praha, Mowshe, 2007, 180 p.
- [24] Milkovich T, Boundreau J, Human resource management, Wonder Book, 1991.
- [25] Kubátová J, Puchinger Z, Je riadenie ľudského kapitálu prínosné?, Ekonomické revue, 2005, 8, 26–42.
- [26] Fitz-enz J, Time new HR analytics, London, Nicholas Breley Publishing, 2009, 368 p.
- [27] Dubcová G, Foltínová L, Manažment v teórii a praxi, On-line odborný časopis o nových trendoch v manažmente, 2012, 8.
- [28] Statistical Office of the Slovak Republic, Labour costs. [Internet], 2016, Available from: https://slovak.statistics.sk/wps/portal/ext/themes/demography/cost/indicators!/ut/p/b1/jZA9D4IwEIZ_Ug9avsZSpRQJQqsRuxgGYzACDsbfbyEsDrbedunz9L07pFGL9Ni9-1v36qexe8y9Di9NJOI09ShAWmIQxU5VOct8kmADnA0AP4rCtx9XcgviQGsuC-IBCVbfAsx-pmqfJoSjzdxn5pn5sSpDH8BbfcZpTqISIC55AILmR5k0GAPF_81vCbDl89DhG8CRf0J6QWwbLIDtxK4jaesUyvWD2aLKp-GKnsPRVAu9uJMPbd6PMg!!/dl4/d5/L2djQSEvUUt3QS80SmtFL1o2X1E3SThCQjFBMDhCVjIwSTdOUjFLUVFHQU8w/.

- [29] Závadský J, et al, Changes of employee motivation of Slovak enterprises due to global economic crisis. *E+M, Ekonomie a management*, 2015, 18, 57–66, DOI: 10.15240/tul/001/2015-1-005.
- [30] Kampf R, Ližbetinová L, The identification and development of talents in the environment of logistics companies, *Nase more*, 2015, 62, 139–142, DOI: 10.17818/NM/2015/SI9.
- [31] Šályová S, Táborecká-Petrovičová J, Nedelová G, Ďaďo J, Effect of marketing orientation on business performance: A study from Slovak foodstuff industry, *Procedia Economics and Finance*, 2015, 34, 622–629, DOI: 10.1016/S2212-5671(15)01677-9.
- [32] Čierna H, Sujová E, Ťavodová M, Application of the Kaizen philosophy – a road to a learner business, In: *International Scientific Days 2016: The Agri-Food Value Chain: Challenges for Natural Resources Management and Society*, 2016, pp. 237–245, DOI: 10.15414/isd2016.s4.01.
- [33] Grancay M, et al, Gravity model of trade of the Czech and Slovak Republics 1995–2012: How have determinants of trade changed, *Politická Ekonomie*, 2015, 63, 759–777.
- [34] Nordström K, Ridderstrale J, *Funky business*, Praha, Grada Publishing, 2005.
- [35] Hitka M, Sirotiaková M, Impact of economic crisis on change of motivation of Ekoltech s. r. o. Fiľakovo employees, *Drewno wood*, 2011, 54, 119–126.
- [36] Kucharčíková A, Ďurišová M, Human capital efficiency in transport enterprise, In: *Proceedings of the 18th International Conference on Transport Means*, 2014, Kaunas. Lithuania, 2014, pp. 239–243.
- [37] Ližbetinová L, Weberová D, Consumer attitudes towards Brands in relation to price, In: *Proceedings of the 27 IBIMA Conference*, 2016, Italy; 2016.